

REMARKS

This is a full and timely response to the Office Action mailed October 23, 2007 and the Advisory Action dated March 20, 2008, submitted concurrently with a Request for Continued Examination and a three month extension of time to extend the due date for response to April 23, 2008.

Claim 1 has been amended to more particularly define the present invention and to incorporate the limitations of claim 2. Also, new claim 22 has been added to further protect a specific embodiment of the present invention. Hence, in view of the amendments to claim 1, claims 2 and 7 have been canceled without prejudice or disclaimer to their underlying subject matter, and the dependencies of claims 3, 12, 13, 18 and 19 have been amended to correspond with these changes. Support for the claim amendments and new claim can be found throughout the specification and the original claims, see, in particular, paragraphs [0043]-[0046] and [0125], and Examples 1-11, of the specification. Thus, no new matter has been added, and claims 1, 3-6, 8 and 11-22 are currently pending in this application.

In view of this amendment and the amendment dated February 25, 2008, Applicant believes that all pending claims are in condition for allowance. Reexamination and reconsideration in light of the above amendments and the following remarks is respectfully requested.

Rejections under 35 U.S.C. §102 and §103

Claims 1, 2, 4-7 and 17-21 are rejected under 35 U.S.C. §102(b) as allegedly being anticipated by or, in the alternative, under 35 U.S.C. §103(a) as allegedly being obvious over Vonken et al. (U.S. Patent No. 5,618,853). This rejection has been overcome by the incorporation of the limitations of non-rejected claims 9 and 10 into claim 1. Thus, withdrawal of this rejection is respectfully requested.

Claims 8 and 11-13 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Vonken et al. in view of WO 02/22723. This rejection has been overcome by the incorporation of the limitations of non-rejected claims 9 and 10 into claim 1 from which claims 8 and 11-13 directly or indirectly depends. Thus, withdrawal of this rejection is respectfully requested.

Claim 9 is rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Vonken et al. or WO 02/22723. These rejections have been overcome by the incorporation of the limitations of non-rejected claim 10 into claim 1 from which claim 9 depends. Thus, withdrawal of these rejections is respectfully requested.

Claim 10 is rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Vonken et al. or WO 02/22723, each in combination with Joppen et al. (U.S. Patent No. 6,103,163). These rejections have been overcome by the incorporation of the limitations of non-rejected claim 9 into claim 1 from which claim 10 depends. Thus, withdrawal of these rejections is respectfully requested.

Claims 1, 2, 4-8, 11-13 and 17-21 are rejected under 35 U.S.C. §102(b) as allegedly being anticipated by or, in the alternative, under 35 U.S.C. §103(a) as allegedly being obvious over WO 02/22723. This rejection has been overcome by the incorporation of the limitations of non-rejected claims 9 and 10 into claim 1. Thus, withdrawal of this rejection is respectfully requested.

Claims 3 and 14-16 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over WO 02/22723 in view of Sugahara et al. (U.S. Patent No. 6,042,765). This rejection has been overcome by the incorporation of the limitations of non-rejected claims 9 and 10 into claim 1 from which claims 3 and 14-16 directly or indirectly depends. Thus, withdrawal of this rejection is respectfully requested.

Applicant also wishes to emphasize that the amended claims are patentable over the combined teachings of Vonken et al., WO 02/22723, Joppen et al. and Sugahara et al.

First, Vonken et al. is directed to an open cell molded structure capable of absorbing liquids, while Naito et al. relates to a vacuum heat insulation material. Thus, both of these references are clearly distinguishable from the foam sheet of the present invention which is used as a car interior member formed by thermal molding of the foam sheet.

Further, in WO 02/22723, the resins constituting the open cell portion and the closed cell portion are of the same resin. In contrast, the foam sheet of the present invention comprises two different sheets, a modified polyphenylene ether-based resin foam sheet (hereinafter “resin foam sheet”) and modified polyphenylene ether-based resin sheets which contains no cells. In other words, as clarified in the presently amended claims, the modified polyphenylene ether-based resin sheet is non-foamed (hereinafter “resin non-foamed sheet”). When compared with the resin foam sheet, the resin “non-foamed” sheet is thicker and exhibits an excellent “form-keeping” property. By laminating the resin “non-foamed” sheet onto both surfaces of the resin foam sheet, a car interior member of desired thickness and shape with superior sound absorption properties can be obtained.

This is due to the fact that during thermal molding of the sheet of the present invention into a car interior member, the heating of the resin foam sheet is kept to a minimal just enough to thermally mold the resin foam sheet without melting and deforming the resin foam sheet. Further, the lamination of the resin “non-foamed” sheet onto both surfaces of the resin foam sheet insulates the resin foam sheet from high heat. In addition, the glass transition temperature T_g of the modified polyphenylene ether-based resin constituting the resin non-foamed sheet is 10 to 40°C lower than the glass transition temperature T_g of the modified polyphenylene ether-based resin constituting the resin foam sheet. This makes the heat resistance of the resin foam sheet higher than the resin non-foamed sheet and prevents the cells in the surface region of the foam sheet from collapsing due to molding pressure during thermal molding.

In addition, although the resin non-foamed sheet is in a state of being somewhat excessively heated during thermal molding, the non-foamed sheet can be thermally molded into a desired shape in a smooth manner while securely maintaining the sheet shape because as stated above, the non-foamed sheet exhibits an excellent form-keeping property.

As a result, by employing the resin foam sheet and the non-foamed sheet in the structure defined in the amended claims, the foam sheet of the present invention need not be excessively heated at the time of thermal molding (to a car interior member) which allows the cells in the foam sheet to keep its form and allows the claimed foam sheet to exhibit excellent sound absorption properties even after being thermally molded.

In support, a review of the Examples of the specification clearly show from the experimental data that when the total open cell content is between 60 to 85%, the claimed foam sheet can achieve its superior sound absorption properties (see Examples 1-11 as compared with Comparative Examples 1 and 2). In addition, as shown in Examples 3 and 4, when the total open cell content and pore area are the same, the sound absorbency decreases with less open area (6.3% vs 3.6%), which indicates the importance of total open pore area for sound induction. Such superior effects of the present invention is not at all taught or suggest in the cited references of Vonken et al., WO 02/22723, Joppen et al. and Sugahara et al. Thus, Applicant believes that the experimental data in the specification establishes the importance of the claimed resin foam sheet and non-foamed sheet and the claimed total opening area and opening end area of the pore portions in allowing the claimed foam sheet to achieve its superior sound absorption properties as compared with the closest related foam sheets of Vonken et al. and WO 02/22723. As the Examiner already knows, a showing of superior and unexpected properties can rebut a *prima facie* case of obviousness. *In re Papesch*, 315 F.2d 381, 137 USPQ 43 (CCPA 1963).

Thus, in view of the amended claims and the experimental data in the specification, Applicant believes that the amended claims are patentable over the teaching and suggestions of the cited references.

CONCLUSION

For the foregoing reasons, all of the claims now pending in the present application are believed to be clearly patentable over the outstanding rejections. Accordingly, favorable reconsideration of the claims in light of the above remarks is courteously solicited. If the Examiner has any comments or suggestions that could place this application in even better form, the Examiner is requested to telephone the undersigned attorney at the below-listed number.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 18-0013, under Order No. YCO-0001 from which the undersigned is authorized to draw.

Dated: April 22, 2008

Respectfully submitted,

By: 

Lee Cheng

Registration No.: 40,949
CHENG LAW GROUP PLLC
1100 17th Street, N.W.
Suite 503
Washington, DC 20036
(202) 530-1280
Attorneys for Applicant

Should additional fees be necessary in connection with the filing of this paper, or if a petition for extension of time is required for timely acceptance of same, the Commissioner is hereby authorized to charge Deposit Account No. 50-4422 for any such fees; and applicant(s) hereby petition for any needed extension of time.